● PRINTER RUSH ●
(PTO ASSISTANCE)

Application :	10/701,216	**Examiner :**	B. Zimmerman	**GAU :**	2635
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[RUSH] **MESSAGE:** Page 15 of specification lists "Figure 4 and 4a", however drawings has FIG. 4A & 4B

Please advise

Thanks

[XRUSH] **RESPONSE:** Correction made on page 15 and also to like references on page 20.

INITIALS: JBH

NOTE: This form will be included as part of the official USPTO record, with the Response document coded as XRUSH.

REV 10/04

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will now be described, by way of a non-limiting example, with reference to the accompanying drawings in which:

Figure 1 is a block diagram of an encoder microchip in accordance with the invention;

Figure 2 is a block diagram of a decoder microchip in accordance with the invention;

Figure 3 is a flow diagram for the functions which the encoder microchip can perform;

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Figure 4A and 4B is a flow diagram for the functions which the decoder microchip can perform;

Figure 5 is a preferred format for the unit number and the counter value; and

Figure 6 is a preferred format for the transmission value.

DESCRIPTION OF PREFERRED EMBODIMENTS

Referring to Figure 1, the encoder microchip receives an input from a pair of switches (1), and comprises a control unit (2), a mode unit (3), a transmit counter (4), an input register (5) for holding an input word, an ID register (6) for holding an identity number, logic means (7) for performing a non-linear function, a shift register (8) for holding an encoded value and repeatedly feeding the encoded value to a transmitter (10), and a status register (9) for holding the configuration of the encoder microchip. The status register (9), the identity number (6) and the transmitter counter (4) are all registers

The transmission word (8) must be at least as long as the input word (5), but need not be the same length as the identity number (6). Security requirements dictate that the transmit counter (4) should be at least 16 bits long and so too the unit number. This indicates that a good length for the transmission word is 32 bits. This provides ample security and is also practical in terms of transmission time and implementation costs.

The functions and operation of the decoder microchip are substantially more complex and would be described with the help of simple examples. The block diagram in Figure 2 shows the functional elements of the decoder microchip and the flow diagram in Figures 4A and 4B shows it operation.

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It should be clear from the encoder description that all information bits to be transmitted are encoded with the non-linear encoding function. This has the effect that the transmission value (8) bears no obvious resemblance to the input word (5). However, at the decoder the information embedded in the input word must be recovered.

The receiver (11) turns the transmitted signals, whether they are in the form of radio frequency, infra red waves or any other suitable medium, into a digital signal. This digital signal in the receiver (11) is continuously scanned (26, 47) from a word that conforms to the format such as shown in Figure 6. Another format may be chosen if it has advantages. When a valid transmission word is recognized, it is moved into the decoder input shift register (12). The control (16) of the decoder microchip would then apply the decoding function (13) with inputs from the preprogrammed decoder identity number (14), to the value in the input shift register (12). The result of this decoding